



ACDHS Proposal

To Design and Implement Decision Support Tools
and Predictive Analytics in Human Services

4/18/2014

This document is a proposal submitted in response to the Request for Proposal To Design and Implement Decision Support Tools and Predictive Analytics in Human Services.

Executive Summary

Data Warehouse Consultants is a local company with national experience that is very qualified to provide the services being sought in this Request. Our company was founded in 2004 by former Deloitte consultants who love the work, but not the daily travel. Our mission is to serve our clients by developing solutions that are technically straightforward, easy to use, require little maintenance and precisely meet our clients' business objectives.

Our experienced professionals are experts in the development of technical business solutions, and most have significant experience in the public sector. We hire consultants who are interested in establishing a long-term relationship with us, and all of our consultants live in Allegheny County and have a vested interest in the region. Our owner and founder, John Shantz, is adjunct faculty at the Carnegie Mellon Heinz School of Public Policy where he has served for over seven years.

We are proposing that DHS fund two separate and distinct projects with very different goals. The first project is an effort to organize the county's prescription drug payment data to alert workers when a client may be on counter-indicating medications. We will employ our standard approach to rapidly implement a solution to provide immediate value to the department. Our goal in submitting this proposal is to dramatically improve your expectations for what you can achieve with the budget you are allocating. The proposed budget for this project is \$126,960 for the entire project including a live system to analyze prescription drug payment data and alert workers when a client may be on counter-indicating medications.

The second project will bring DHS into the next generation of data warehousing using new "big-data" tools. We see this project as a vision for the future. It is clearly more of a prototype approach, but it will likely open up new possibilities for predictive analytics and analysis that you haven't yet considered. By embarking on this project, DHS will be taking a big step towards remaining a technology leader in human services. The DHS data warehouse has been a model for other institutions for the last ten years, and this project will be the foundation for a model for the next decade. The proposed budget for this project is \$255,600 to design, develop, build and implement a prototype "big data" solution to identify and flag cases for case review, primarily using the qualitative data available to the department. The final product will be a big data foundation that can be expanded to answer many more of the department's pressing human services questions.

Qualifications

Research History and Experience

Data Warehouse Consultants is very qualified to provide the services you are seeking. Our company was founded in 2004 to provide data warehousing and business intelligence consulting services, with a focus on organizations in the Greater Pittsburgh region. Our primary skill is quickly understanding an organization's business problems and translating that knowledge into reality with a technical solution.

We have been involved in several research related projects over the last few years. To highlight our approach we would like to focus on an ongoing effort for a research project for the University of Pittsburgh.

This project began as an idea formed by Dr. Susan Creary, a medical intern at Children's Hospital in Pittsburgh. Dr. Creary served as a resident with the hospital's sickle cell program. Children's Hospital is Western Pennsylvania's primary center for assisting children having Sickle Cell Disease. Her focus was on a drug called, hydroxyurea, which is the only approved pharmaceutical proven to be effective in treating sickle cell disease. One problem with this drug is that it must be taken every day to stay effective.

Dr. Creary was focusing on methods to help these children essentially remember to take their medicine every day. She started with the known medical knowledge to date. Prior research has proven that when a patient comes into the doctor's office or clinic and is observed taking a medication, they will ultimately take the medicine at a higher rate. That is somewhat intuitive since it requires much more effort to go to a clinic than to simply take a medicine at home. This concept of "observed" therapy is particularly useful for hydroxyurea since it must be taken every day. The downside of this approach is that it is obviously very time consuming and burdensome for the patient.

Dr. Creary wanted to see if she could extend this observed therapy concept to take advantage of new mobile technologies. She came up with the concept of a "Mobile Direct Observation of Therapy", or Mobile DOT. Her theory was that having a patient capture a video of herself taking the medication, and then uploading it to a website might be just as good as having the patient come in to the clinic. Dr. Creary came to Data Warehouse Consultants after she developed this new theory and secured funding to test it. Our firm essentially came in very near the ground floor and helped her design a study to test her theory.

Our consultants started on this project by understanding the goals that Dr. Creary was attempting to achieve. The problem was that many of the technologies she wanted to implement were outside her budget. We helped her to identify modified solutions that could be used to achieve the goal at a low cost. Instead of a range of mobile applications for iOS and Android, for example, we focused on a common mobile website that could be used by both. We also helped her to make some small technical changes that paid huge dividends. Once we agreed on a viable approach, our consultants built the technology to successfully implement the study. The outcome of this project was that she was able to implement the study using a website and associated technologies on a very limited budget. Using custom technology we developed for the study Dr. Creary was able to run the research project for twenty patients herself, and she proved on a small scale that this approach is effective.

The implementation of this study was so effective that the PCORI institute has since provided a \$500,000 grant to conduct a similar but larger study in multiple hospitals across the United States. Data Warehouse Consultants was the developer on that effort as well, and it is currently underway. While there are some aspects of this study that are “back-end” and cannot easily be displayed, we have put up a demo site that you can review to see how this application works. This site is best viewed in the Chrome browser, and the URL is <http://DemoMDot.dwconsultants.com/>.

This custom application achieves the following goals:

- The study administrator enrolls the patient in the study via the website and completes several patient questionnaires on the patient.
- Every day a patient records a video of themselves taking the hydroxyurea medication on a mobile device
- The patient emails the video into a central location
- Our software receives the emails and loads the video attachments into a SQL Server database
- The project administrator reviews the video each day to verify it was done correctly
- The website keeps track of various metrics such as the number of days the video was submitted or missed
- The website sends configurable alerts and text messages to the patient to remind them to submit videos that were not yet sent.

There is also another business intelligence aspect to this project as well. Once the data is submitted, Data Warehouse Consultants provides an entire series of data exports and data

views to analysts working with the study, to give them the information they need to calculate various metrics such as the Medication Possession Ratio that is essential to understanding whether or not this method is effective on a large scale.

While this is only one example of how Data Warehouse Consultants operates in a research environment, it is demonstrative of our approach. We focus on getting up to speed on the research goals very quickly, and use our clients' subject-matter expertise combined with our technical acumen to effectively implement a viable solution.

Human Services Experience

Our consultants have a deep knowledge of the business of human services. Most of our recent engagements creating small-scale applications have been with the University of Pittsburgh and Children's Hospital of Pittsburgh. Almost all of these applications have required us to engage with various clinicians in the field to understand specifically what they need to accomplish with the application.

One office we have worked with particularly closely is the Sickle Cell department. This department receives grants from the Commonwealth of PA to run sickle cell identification and treatment programs. Some of the applications we have developed for the Sickle Cell department have been created to specifically address requirements and auditing desired by the state. Much of this work requires us to interact with government analysts and auditors, as well as social workers who assist with the sickle cell programs.

In addition to our current development efforts many of our consultants have previous experience on human services engagements. This experience covers a range of human services areas including Medicaid eligibility, Medicaid claims processing, welfare programs, unemployment insurance, employment programs, juvenile justice, child welfare programs, aging programs and others. Our exposure to human services is very well-suited to this Request. Specific details of previous engagements can be found on staff resumes.

Our Approach

Our approach to design and implement the decisions support tools and predictive analytics will be the same approach we take for other projects. We plan to raise the expectations DHS has for what you can accomplish with your business intelligence budget. Data Warehouse

Consultants is high on energy and low on overhead. We develop applications using a prototype-driven approach and agile techniques. We follow a standard system development life cycle, but each cycle is rapid and we anticipate multiple iterations to achieve the full set of requirements. This allows our clients to use the applications immediately, and to identify changes from actually using the application instead of thinking about how they might use it.

We will start our project by working with YOUR experts in human services. While we have expertise in this area, it pales in comparison to the knowledge that your people have working in these roles every day. We will start by meeting with your experts to develop a plan and theory for what the project should be. This initial requirements phase will be largely concluded in 2-3 weeks at most. Other firms may propose spending 6 or 8 weeks on this phase to “get it right”. The truth, however, is that this is research, and usually no one knows what “right” is.

We like to get started by doing instead of by talking. We will take your experts’ advice, and start doing some initial analysis on the available data. We may for example, try to see if a documented problem at school for a foster child tends to lead to an interaction with juvenile justice. We will conduct an initial analysis to determine whether the theory is feasible. Can it be done? Does the data support it? What are the challenges? By 4-5 weeks into the project, we should be able to make a go/no-go decision as to whether it even makes sense to pursue this further. If it doesn’t make sense to proceed, we will help you evaluate a modified approach that might.

Should we decide to proceed our developers will create a simple design and data model, and then begin building the analytic application. Instead of a specification describing what the application will do, we build a prototype of the application itself as a specification. This usually takes several weeks. Once the prototype is ready, we again meet with the users to review the application and come to agreement on further development. We consider this the “here’s what we are thinking” phase. Our developers essentially put our vision of the project up on the wall (or screen), and we discuss how this implementation meets the users’ requirements. The goal is to arrive at a common understanding of what the application is, what are the inputs and outputs, and what it will do.

This involves the users very early on in the process to limit surprises at the end. It is very similar to a detailed design phase in a waterfall methodology approach. But the key difference here is that at the end of this phase, there is actually a demonstrable prototype rather than simply a design specification. This means that most of the design issues that can and will arise during

development have already been vetted, which greatly reduces any unforeseen issues with the project.

After agreement is reached on functionality and the common vision, there is another short development phase to implement the required changes. Then the application will be published for user testing. This minimizes the amount of time required between when the application design is complete, and when users can begin actually using it.

The outcome of this approach is striking. Most of our applications are completed and deployed in the time that many companies take to identify and document the problem and solution. Larger projects may be broken into separate phases, but the typical project can be completed in eight to ten weeks start to finish.

As a consulting firm almost every project we have done requires us to integrate with another firm in one aspect or another. We are flexible in our approach, and are willing to work within existing frameworks if necessary. The primary factor that is often impacted by integration with an IT vendor is cost. We do our best to minimize costs and maximize value. Often times, however, our costs are increased by requirements not originally in our bid but required by the IT vendor. If an existing vendor requires extensive documentation to do a deployment, for example, that may increase the ultimately price of the project to the Department. Outside of that limitation, however, we welcome the opportunity to work with knowledgeable technical staff.

Project Description

We are proposing two projects to develop decision support tools for the county. Both of these projects include (1) working with county experts to identify and understand the problem and (2) designing and building the application that will be integrated into the existing information technology infrastructure. As discussed in the approach section our firm is focused on developing solutions quickly. We see the approach of only developing an analytic model or simply designing a system without building it being largely a waste of time. We would prefer the analytical model to be tested and pass or fail quickly, before a large amount of funds are spent.

Project 1: Prescription Drug Payment Analysis

Project Goals

The goal of this project is twofold. The business goal is to organize the county's prescription drug payment data to alert workers when a client may be on counter-indicating medications. The secondary goal is to demonstrate to the county what can actually be achieved on a limited budget.

Data Warehouse Consultants believes that we could ultimately address any of the questions provided in the proposal using our approach. This project will demonstrate how much the County can achieve on a limited budget. We selected this question in particular because we have significant experience organizing pharmaceutical payment and medical claims data. Our founder, John Shantz, was the lead designer on a Medicaid claims data warehouse for the Commonwealth of Pennsylvania, so he has extensive experience working with this type of data. He is intimately familiar with the issues involved, and will hit the ground running when working with the county's experts.

Services Provided

Data Warehouse Consultants will design and build a prototype information system that will be used to identify drugs with contraindications using drug payment data. This system will initially be used to identify only a limited set of indications. The goal would be to expand the conflicts that are included in later releases after the concept is proven. This system will include the following components:

1. Expert Interviews. Our consultants will conduct requirements interviews with DHS experts to understand the immediate business problems and examples of drug conflicts that need to be identified. This short phase will help us to gain the necessary understanding of the department's goals for this project.
2. Database. Data Warehouse Consultants will design and build a SQL Server database to hold the data specific to this application. The system will be designed in such a way to support ongoing additions of drug conflicts with minimal development. We plan on using a separate database as a logical separator between the county's data and this new system, which you ultimately plan to make available publicly. This will force us to develop the system from an external point of view, and to not cheat during the design by relying on county-specific technologies. We plan to use SQL Server because it is an

easier technology to learn for the un-initiated, and it will integrate more easily with common analytical tools like Microsoft Excel and Microsoft Access.

3. **Source Interface.** Although we will design this tool for the public domain, we want it to integrate initially with DHS data. To this end we will build an interface into the source data so that the DHS data can be updated as needed. This interface may be run as often as daily, or it may be run on demand if that is a better approach based on the requirements.
4. **Alerts and Web Application.** Initially, we will likely identify many conflicts in the drug payment data. We will develop an online application for users to review this data for a specific client. The idea would be to create an initial point of contact for workers to check when they need to check this data. This application can be published to either the county intranet or Internet depending on the requirements. Ultimately, however, this question seems most appropriately handled by a series of alerts. We could also introduce an alert module to proactively send out emails to county representatives whenever a drug conflict is identified should that be deemed appropriate.

Integration with Existing IT

We can integrate the front-end of this application using a number of means. Since this will be a web-based application, it can easily be integrated to the county's existing website, intranet, or other portal. The application can be developed using native Active Directory security to make the login process seamless. It can also be developed using existing templates and color schemes. This will have the appearance of being integrated into the county's other tools.

The database layer will integrate with the existing tools is via the interface we have identified above. We believe it is important to keep the database layer separate on this type of application if you want to make it reusable for other entities.

Design / Development Timeline

We will conduct this project over twelve weeks beginning on October 6, 2014 using a staff of three consultants. Allowing for various holidays and down-time, we anticipate completion of this project in early 2015.

Staff Overview

The people of Data Warehouse Consultants are what set us apart from other firms. Our company was literally founded to focus on Pittsburgh, and we strive to hire individuals with

vested interests in the area. At the time of this writing, all of our consultants currently live in Allegheny County.

John Shantz

Project Owner / Database Architect

John Shantz is the owner of Data Warehouse Consultants, and will be the primary contact for project initiation and design. John has extensive experience in the design and development of data warehouses and database-driven applications. His primary responsibility is to understand the general goals the application, develop an initial design, establish the project scope, and provide a vision and guidance for the rest of the team. This often involves some database design and architecture to make sure the application meets the desired business goals.

Bob Brichacek

Team Lead / Application Developer

Bob Brichacek is a former PricewaterhouseCoopers and Celerity consultant specializing in the development of efficient processes using technology. He has extensive expertise working with business users to develop effective solutions using a range of technologies. He will participate and/or lead requirements meetings and will serve in a lead role on the project.

Ryan Syes

Application Development

Ryan is a gifted analyst and developer working in our web application development group. He focuses on the development of web-based ASP.NET applications written in either VB.NET or C#. Ryan has created applications using Microsoft technologies like SQL Server and SharePoint, and he also has significant experience developing web applications against Oracle and other databases as well. He will work Bob and John to implement the solutions that are identified.

Project 2: DHS Big Data Prototype

Project Goals

This project will ultimately become the “next big thing” for DHS and human services in general. DHS already has extensive experience with the county data warehouse, and you are intimately familiar with the challenges of integrating these complex data sources. We envision this project as the first step towards a new generation of technologies for DHS analysis and predictive

modeling. Increasingly, large companies are making use of “big data” concepts to overcome similar issues. The goal of this project is to use these new techniques to begin addressing these challenges in the Human Services arena.

This project will focus on using Hadoop, HDFS and related tools like Hive and Sqoop to flag cases for case review using the qualitative data the county possesses. These technologies are made to answer this type of question. The problem with traditional data warehousing is that the data must be forced into a structure before it can be used. This necessarily requires the data to be put into non-native forms which is difficult and time consuming. HDFS allows that model to be tipped onto its head. HDFS allows you to load data files before any structure is known. The extractions and transformation can then be done afterwards, often in real time, in a massively parallel approach to gain insight into the data that is there.

The DHS data warehouse is increasingly dealing with the “Four V’s” of big data:

Volume. There are massive amounts of data that need to be captured, and the volumes are growing incrementally larger each year. There is no sign of this trend fading.

Variety. Data doesn’t come in one flavor. Each source system has its own data, and there are many types of unstructured data like emails, documents and case files that must be analyzed

Velocity. The data is being generated faster and faster. Emails come in every day. Text messages may need to be integrated. This also includes things like caseworker notes and calls that happen in real time.

Veracity. The quality or status of the data is suspect. Not all data is present for all periods.

Hadoop and the associated open-source technologies built on it are designed to handle these issues. Hadoop was developed by Yahoo by implementing an approach developed at Google. It since has been adopted by many large data companies like Facebook, who uses it to collect and process up to 1 petabyte (1,000 terabytes) of information a day.

The potential for using these technologies in an analysis an analysis and reporting environment are nothing short of revolutionary. Fully implemented, this “big-data” approach would accomplish the following goals:

- Ability to load and archive any type of data
- Ability to build analysis and predictive routines against all data types include case files and emails

- Remove the need to ever again archive or purge data
- Remove the need for data backups as redundancy is built-in to HDFS
- Provide the ability to scale the system up or down as needed

Services Provided

Data Warehouse Consultants will design and build a prototype HDFS (Hadoop Distributed File System) information system that will be used to flag cases for case review. This system will initially be used to identify only a limited set of flags. The primary outcome will be to build a prototype system that demonstrates the next level of analytics that the county can start to perform across all of the vast data sources it owns.

This system will be created using an external platform provider to furnish the Hadoop hardware. There is a choice of vendors, but we prefer and have a relationship with Amazon. As this is a proof-of-concept, we want to focus less on hardware setup and more on demonstrating the benefits this type of system can provide.

Some key benefits of these new big data techniques cannot be understated:

- Flexibility – Load any type of data
- Scalability – Never need to offload or archive data again
- Velocity – Load data like case files in real time
- Scale-Out Architecture – Easily increase capacity by adding “nodes”
- High Availability - Serve mission-critical workflows and applications
- Fault Tolerance - Automatically and seamlessly recover from failures
- Flexible Access – Multiple and open frameworks for serialization and file system mounts
- Load Balancing - Place data intelligently for maximum efficiency and utilization
- Tunable Replication - Multiple copies of each file provide data protection and computational performance

This prototype will focus on building a model to identify child welfare cases that should be flagged for review. It will include the following work products:

1. Expert Interviews. Our consultants will conduct requirements interviews with DHS experts to understand the immediate business problems and examples of existing theories that they think should be tested. This short phase will help us to gain the necessary understanding of the department’s goals for this project.

2. Hadoop Setup. Implementation of a HDFS system using a third-party provider.
3. Child Welfare Data Load. Load of a sample of data into the HDFS system. While ultimately we will want to load all of the data, this prototype will focus on a shorter time period that can be used to prove the concept. This may be one or two years of data, or it may be limited to a certain population within the system. The specific data to be included is flexible.
4. Hadoop Programs. Creation of HDFS scripts or higher-level programs to implement a prototype system to demonstrate the ability to flag cases for review using existing unstructured data.
5. Expansion Plan. A plan to extend this prototype to help the county embark on a completely new approach for business intelligence. Using the new technology and the expertise and data the county already possesses, there is a great potential to improve the use of data to serve the county's citizens.

It is important to note that this project will largely still be a prototype upon completion. There is a significant amount of setup work that goes into the creation of a viable Hadoop framework, and our consultants will be working through that process with the County. This project is a vision for the future, however, and we believe we can begin showing you this vision far cheaper than any viable competitor.

Integration with Existing IT

This project is a new technology that will be separate from the existing IT infrastructure. It will accept inputs from a number of County systems, however, and that data will be loaded into the HDFS framework as necessary to achieve the project goals.

Design / Development Timeline

We will conduct this project over nine months beginning on September 8, 2014 or another acceptable date. As this project is a prototype, the staffing will be kept very minimal to reduce cost. There will also be some technical hurdles to overcome, so we do not anticipate staffing this project at 100% while it is ongoing. Allowing for various holidays and down-time, we anticipate completion of this project in mid-2015.

Staff Overview

The people of Data Warehouse Consultants are what set us apart from other firms. Our company was literally founded to focus on Pittsburgh, and we strive to hire individuals with vested interests in the area. At the time of this writing, all of our consultants currently live in Allegheny County.

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Project Owner / Database Architect

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Steven Shantz

Lead Designer/Developer

Steven Shantz is a former Deloitte consultant and US Marine Captain who is an expert at managing teams and developing business-driven software applications. Steve has experience creating dozens of applications using a range of technologies including SQL Server, Oracle, .NET and Perl. Steve will serve as the lead consultant on this engagement. As the team is small, this effort requires a consultant with both extensive technical capabilities, and the ability to understand the project goals. Steve is the rare consultant who has both. He will participate and/or lead many of the requirements meetings, and he will also complete the bulk of the Hadoop system implementation.

References

Susan Creary, MD, MSc

Assistant Professor of Pediatrics
The Ohio State University
Nationwide Children's Hospital
Division of Hematology-Oncology
Office: (614) 722-3563
Email: susan.creary@nationwidechildrens.org

Dr. Creary is the primary researcher that we worked with during the sickle cell Mobile DOT project mentioned in the narrative. She was the originator and research designer of this novel project.

Denee Marasco

Applications Manager, Information Services
Children's Hospital of Pittsburgh of UPMC
Office: (412) 692-5936
Email: denee.marasco@chp.edu

Mrs. Marasco is the lead IT manager on many of the projects we have developed for Children's Hospital. We recommend discussing with her our consistent approach to project management while implementing a range of solutions rapidly and effectively.

María Cecilia Q. Dancisin

Manager, International Department
Children's Hospital of Pittsburgh of UPMC
Office: (412) 692-6820
Email: Mariacecilia.Dancisin@chp.edu

Ms. Dancisin is the lead business user on one of our recent implementations for Children's Hospital. Among other topics she can speak to the methods and techniques we use to create solutions that are exactly what our users want.

Budget Description

The two projects we are proposing are complementary and severable. We think you could choose to either or both. As such, we have established independent budgets for each.

Project 1: Prescription Drug Payment Analysis

The funding required for this project is \$126,960 exclusively for consulting services. This is the cost of the proposed staff over the identified 12 week project window. The figure below shows these calculations and associated staffing rates.

Staffing Level		1	2	3	
Period		10/06	11/03	12/01	
Project Owner / Database Architect		1	1	1	
Team Lead / Application Developer		1	1	1	
Application Developer		1	1	1	
Consulting Effort (Hours)					
Position	(% FTE)	1	2	3	Total
Project Owner / Database Architect	10%	16	16	16	48
Team Lead / Application Developer	95%	152	152	152	456
Application Developer	95%	152	152	152	456
	0	-	-	-	-
Total		320	320	320	960
Cost					
Position	Rate	1	2	3	Total
Project Owner / Database Architect	\$ [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Team Lead / Application Developer	\$ [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Application Developer	\$ [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	\$ -	\$ -	\$ -	\$ -	\$ -
Total		\$ [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

The detailed spreadsheet has been provided with this proposal.

Assumptions

- Work for this project will be completed remotely via VPN or on-site as necessary
- Ongoing maintenance and support are not included in this estimate
- This estimate does not include the purchase of any software or hardware

- DHS will provide the Oracle or other client software licenses necessary to complete this project

Project 2: DHS Big Data Prototype

The funding required for this project is [REDACTED]. This includes \$[REDACTED] for consulting services and \$[REDACTED] to outsource a prototype Hadoop environment. The figure below shows these calculations and associated staffing rates.

Staffing Level		1	2	3	4	5	6	7	8	9	10	11	
Period		09/08	10/06	11/03	12/01	12/29	01/26	02/23	03/23	04/20	05/18	06/15	
Days		20	20	20	20	20	20	20	20	20	20	20	
Database Architect		1	1	1	1	1	1	1	1	1	1	0.75	
Lead Designer/Developer		1	1	1	1	1	1	1	1	1	1	0.75	
Technical Subject Matter Expert		1	1	1	1	0	0	0	0	0	0	0	
Consulting Effort (Hours)													
Position	(% FTE)	1	2	3	4	5	6	7	8	9	10	11	Total
Database Architect	10%	16	16	16	16	16	16	16	16	16	16	12	172
Lead Designer/Developer	75%	120	120	120	120	120	120	120	120	120	120	90	1,290
Technical Subject Matter Expert	10%	16	16	16	16	-	-	-	-	-	-	-	64
Total		152	152	152	152	136	136	136	136	136	136	102	1,526
Cost													
Position	Rate	1	2	3	4	5	6	7	8	9	10	11	Total
Database Architect	\$ [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Lead Designer/Developer	\$ [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Technical Subject Matter Expert	\$ [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total	\$ [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total Services		\$ [REDACTED]											
Hadoop Infrastructure		\$ [REDACTED]											
Total		\$ [REDACTED]											

The detailed spreadsheet has been provided with this proposal.

Assumptions

- Work for this project will be completed remotely via VPN or on-site as necessary
- Ongoing maintenance and support are not included in this estimate
- This estimate does not include the purchase of any software or hardware
- DHS will provide the Oracle or other client software licenses necessary to complete this project, except for the Hadoop-related technologies.

Appendix A – Staff Resumes

Appendix A – Staff Resumes



JOHN SHANTZ

EXPERIENCE AND PROJECT HISTORY

Carnegie Mellon University – Pittsburgh, PA

Adjunct Professor – Heinz Graduate School of Information Systems and Management

10/05 to Present

- Instructor for two graduate-level courses for students pursuing a Masters of Information Management degree
- **Data Warehousing** is a project course where students learn the basics of data warehousing and develop a prototype data warehouse around a real-world business problem.
- **Decision Support Systems** provides a more broad focus into business intelligence, the fundamentals of data warehousing and the various types of decision support systems that are available.

Data Warehouse Consultants LLC – Pittsburgh, PA

Principal

Small Business Management, Strategy & Operations

07/04 to Present

Data Warehouse Consultants

- **Entrepreneur:** Serve as the President of Data Warehouse Consultants, a consulting services firm in Pittsburgh, Pennsylvania focusing on business intelligence and other IT projects. Manage all primary aspects of the business including strategy, sales, client relationship management, human resources, recruiting, accounting, project delivery and quality assurance.
- **Strategy:** Define and maintain the strategy for the company including the creation of business plans and marketing plans. Have direct control over sales objectives and marketing goals.
- **Business Sales:** Responsible for the development and implementation of our business sales strategy. Serve as the primary contact for closing deals with our clients.
- **Client Relationship Manager:** Act as the lead manager for providing quality service to our clients and keeping a strong relationship with them.
- **Human Resources:** Develop the company recruiting and human resources strategies and oversee their implementation.
- **Finance/Accounting:** Prepare firm budgets and maintain company profit and loss statements. Primary signer on various taxes and payments submitted for the business to the government.
- **Project Delivery / Operations:** Conduct project management and manage delivery on many of the projects we complete.
- **Consulting:** Participate directly as a subject matter expert on many of our engagements.

Application/Database Design

08/10 to Present

Management Science Associates, Pittsburgh, PA

- **Key Initiatives:** Design, development and maintenance of several key initiatives for MSA including the Electronic Ordering Clearinghouse, the Store Viewer application, the Why Data Changes application, the Distributor Trade Programs application, the Authorized Distribution List feed, and several other smaller projects.
- **Data Architect:** Serve as the lead architect on the company's "next generation" data warehouse designs.
- **Application Design:** Designed the database and application to implement each of the above initiatives. This includes design and development of both Oracle and SQL Server back-end software as well as the web interfaces written in Microsoft .NET. These projects span several technologies and platforms.
- **Client Relationship:** Assist MSA in managing the technical aspects of their client relationships with key distributors and vendors on several projects

JOHN SHANTZ

- **Database Development:** Create the database structures and test the applications that are implemented. Work with multiple distributors to implement a generic process that can be expanded to multiple targets.
- **Project Management:** Responsible for assisting the client to set deadlines and milestones for successful implementation of the project. Perform project management functions for the DWC team during the life of the project.
- **Training:** Provide operations assistance and training to operations staff regarding key aspects of MSA's Data Factory and data mart applications.
- **Problem Solving:** Serve as a key resource to troubleshoot issues that arise within various processes and applications within the organization.
- **Technology:** Oracle, PL/SQL, SQL Server, Microsoft .NET, Appworx, EDI, Unix (AIX)

Custom and Mobile Application Development

Children's Hospital of Pittsburgh of UPMC

07/10 to Present

- **Database Conversion:** Convert complex Microsoft Access databases into SQL Server to improve performance and enterprise capabilities.
- **Web Application Development:** Development of custom applications to meet the needs of various departments at Children's Hospital. Successful implementations for various departments including cardiology, cleft/craniofacial and vascular anomalies.
- **Mobile Application Development:** Development of mobile applications to meet the specific needs of several departments at Children's Hospital including pharmacy and radiology
- **Project Management:** Perform project management functions for the DWC team during the life of the project.
- **Technology:** MS SQL Server, MS Access, ASP.NET, MS Windows Mobile

Custom and Mobile Application Development

University of Pittsburgh

08/11 to Present

- **Web Application Development:** Development of custom applications to meet the needs of various departments at Children's Hospital via grant sponsorship at the University of Pittsburgh. Successful implementation of several novel applications for the sickle cell department.
- **Project Management:** Perform project management functions for the DWC team during the life of the project.
- **Technology:** MS SQL Server, MS Access, ASP.NET

Data Warehouse Designer and Project Manager – Real-time DW Project

04/07 to 10/13

Allegheny County Department of Human Services, Pittsburgh, PA

- **Project Background:** Allegheny County is undergoing an effort to increase the timeliness and accuracy of their existing data warehouse. As part of this effort they are upgrading the system to load data from each of the 17+ source systems more frequently which will allow the department to greatly increase the relevancy of the data warehouse within the organization.
- **Data Warehouse Design:** Reengineered the existing data warehouse to move from a monthly data load to one that is based on daily updates. Updated several design flaws and introduced new load standards during the upgrade.
- **Project Management:** Managed the development, implementation and testing teams working on the data warehouse project.
- **Technology:** Oracle, PL/SQL, VB.NET

Data Warehouse ETL/Design Consulting

09/10 to 03/11

Creehan & Company

- **Project Background:** Creehan & Company is undertaking a data warehouse effort based on their ScriptMed pharmacy management system. The data warehouse will facilitate ease of reporting and calculation of metrics that cannot be easily obtained now.

JOHN SHANTZ

- **Data Warehouse Design:** Assisted Creehan staff with design concepts and expertise related to creation of their data warehouse. Provided direction on fundamental data warehouse design, as well as design of ETL processes.
- **Technology:** Oracle, VB.NET

ETL/Process Designer and Project Manager – Data Factory & Feed Conversion

09/08 to 08/11

Management Science Associates, Pittsburgh, PA

- **Project Background:** The goal of this effort is to convert a legacy VMS-based system into a new Oracle system that will feed the data warehouse and other systems. DWC is responsible for successful conversion of several clients within the MSA data factory.
- **Business Process Improvement:** While completing the conversion to Oracle, the DWC team is implementing data processes that greatly streamline the existing processes and allow the client data to be processed automatically.
- **Project Management:** Performed project management functions for the DWC team during the life of the project.
- **Technology:** Oracle, PL/SQL, Unix (AIX)

Data Warehouse ETL/Design Consulting

04/09 to 12/09

QuestionMark Corporation, London, UK

- **Project Background:** QuestionMark is creating a data warehouse product to go with their flagship Perception software. I assisted them by providing subject matter expertise in the design and development of this system.
- **Data Warehouse and ETL Design:** Assisted QuestionMark staff with design concepts and expertise related to creation of a data warehouse product to attach to their Perception system. Provided consulting services related to the data warehouse design with a specific focus on creating ETL processes that could be deployed with their varied installation methods.
- **Technology:** Oracle, SQL Server, VB.NET

Performance and Process Improvement Specialist – MSA Media Division

01/08 to 09/08

Management Science Associates, Pittsburgh, PA

- **Project Background:** MSA contracted with Data Warehouse Consultants to review and improve the performance and structure of their existing extraction, transformation and load (ETL) process for their Stewardship data warehouse product. The primary goal of the project was to reduce load times for specific large clients to more manageable levels.
- **Business Process Improvement:** Conducted a gap analysis to review the current state of the ETL process and identify short-term and long-term improvement possibilities.
- **Project Management:** Managed the DWC team while implementing the recommendations that were made.
- **Data Warehouse Development:** Worked on various process improvement initiatives using UNIX and Oracle technologies.
- **Technology:** Oracle, PL/SQL, Unix (Alpha Tru64)

Data Warehouse Architect – Job Costing Data Warehouse Project

08/07 to 01/08

Armstrong Group of Companies, Inc. - Guardian Protection Services

- **Project Background:** Guardian Protection Services contracted with Data Warehouse Consultants to design and develop a data warehouse to support financial reporting and job costing for their builder sales business. The goal of the project was to develop a system to provide real-time information of actual versus budgeted costs for the program to improve profitability.
- **Data Warehouse Architect:** Designed a dimensional-model data warehouse to support the existing business requirements for the job costing data warehouse. Constructed the data warehouse to support future expansion to more businesses within Armstrong.
- **Data Warehouse Development:** Constructed the ETL for the data warehouse using the suite of tools available in SQL Server 2005. The primary tools used were SQL Server Integration Services (SSIS) and SQL Server Analysis Services (SSAS).

JOHN SHANTZ

- **Web Development:** Constructed an intranet website as one of the primary data view into the data warehouse. This application provided unprecedented access to the data from the existing system for Guardian managers.
- **Technology:** Microsoft SQL Server 2005 Suite (Database, SSAS, SSRS, SSIS), VB.NET, C#.NET

Process Improvement Project Manager – Pepsi Central, North America Project

04/06 to 12/07

Management Science Associates, Pittsburgh, PA

- **Project Background:** The Pepsi Central North America (PCNA) project is an effort to provide enhanced store matching in a data warehouse among all of the various bottlers and subdivisions that provide sources upon which the client relies. DWC was brought in to this project to identify and correct issues that were preventing the reliable delivery of daily deliverables. The primary goal of our involvement was to bring much needed stability and efficiency to the daily processes.
- **Business Process Improvement:** Conducted a gap analysis to identify deficiencies in the existing deliverable development structure and recommended changes to improve stability and efficiency.
- **Project Management:** Managed the process improvement team while implementing the recommendations that were made.
- **Data Warehouse Development:** Created a series of packages, procedures and programs to automate nightly load activities. Integrated these programs into a coherent nightly load approach using Appworx scheduling software.
- **Technology:** Oracle, Ascential DataStage, PL/SQL, C++, Alpha Tru64, Appworx, VB.NET

Technical Lead and Project Manager – Data Factory Redesign Project

7/04 to 04/06

Management Science Associates, Pittsburgh, PA

- **Project Background:** This project was an effort to convert a core client system from a legacy, VMS-based system to a more robust Oracle-based system. John was originally brought into an advisory role regarding the technical architecture of the system, but eventually managed the design, development and successful implementation of the conversion.
- **Project Management:** Managed most technical aspects of the Cigarette Data Factory Redesign project including development of the project plan, determination of resource assignments and resolution of technical issues.
- **Database Architecture:** Acted as primary database designer for all aspects of the project. Responsible for design of the operational data store, data mart and data warehouse databases.
- **Process Design:** Maintained and designed the data and process flow for the system. Led developers through new aspects of the design when appropriate.
- **Project Communications:** Developed business-level documentation and presentations for client-service staff to explain the intricacies of the new data factory at a business level.
- **Meeting Facilitation:** Conducted requirements and design meetings to determine the desired system operation for "legacy" users.
- **Technology:** Oracle 9i and 10g, Ascential DataStage, PL/SQL, C++, Alpha Tru64, ER Studio

Website Designer and Developer

10/04 to Present

- **Website Development:** Design and develop several on-line applications and web forms for a variety of clients.
- **Process Design:** Serve as primary designer for many website application and database processes that we implement.
- **Technology:** MS SQL Server, MS Access, ASP.NET

Deloitte Consulting – Pittsburgh, PA

Manager	08/2003 to 07/2004
Senior Consultant	04/2001 to 08/2003
Consultant	08/1998 to 08/1999
Systems Analyst	02/1997 to 08/1998

(Full project details and client references available upon request)

Project Manager/Data Warehouse Architect

5/03 to 7/04

Commonwealth of Pennsylvania – Department of Public Welfare

- **Project Management:** Manage a multi-disciplinary team to implement a financial data warehouse to track the payment of Medicaid claims. Maintain primary responsibility for delivery of all aspects of the system development life cycle.
- **Data Architect:** Design the data warehouse star-schema data model. Design and develop Cognos Impromptu reports and PowerPlay cubes. Design and develop Informatica extraction, transformation and loading (ETL) processes.
- **Communication Skills:** Facilitate ongoing system design and business requirements meetings with client personnel
- **Financial Modeling:** Developed alternative financing models for an aspect of this project where we are responsible for quality assurance
- **Technology:** Oracle, Cognos Powerplay/Impromptu, Informatica

Software Creator and Author – Deloitte Consulting

4/01 to 7/04

Deloitte Consulting

- **Business Requirements:** Identified the business case for developing a metadata tracking tool to be used on business intelligence projects.
- **Web Development:** Technical architect and creator of web-enabled software to track metadata that is created during data warehouse development. Actively support the installation of this software at many current clients (www.dc-metadata.com)
- **Technology:** Oracle, MS Access, Microsoft Active Server Pages

Project Manager/Data Mart Architect – Data Warehouse Design and Implementation

8/02 to 5/03

Commonwealth of Pennsylvania – Department of Labor and Industry

- **Project Management:** Managed the design, development and deployment of an employer information data warehouse for the Center for Workforce Information and Analysis.
- **Business Requirements:** Led requirements team meetings with data mart users to develop business requirements for use in an enterprise data warehouse
- **Technical Architect:** Principle architect of the data mart databases and extraction, transformation and load (ETL) processes.
- **Business Intelligence:** Design and develop Business Objects reports and universes. Design and develop custom PL/SQL for extraction, transformation and loading (ETL) processes.
- **Technology:** Oracle, MS Excel, Business Objects, Oracle PL/SQL

Business Requirements and Development Lead – Data Dictionary Initiative

4/02 to 8/02

Commonwealth of Pennsylvania – Pennsylvania Justice Network (JNET)

- **Business Requirements:** Gathered requirements from multiple justice-aligned agencies to develop a common data transmission standard for the justice network
- **Technical Design:** Developed a unified naming and data standard across these agencies supported by a full-function XML schema for verification purposes
- **Technology:** XML Spy, MS Access

Data Warehouse Architect / Development Manager – Data Warehouse Implementation

5/01 to 4/02

Santa Clara County, California

- **Project Management:** Managed the technical team in the development of a data warehouse to combine information from various county departments
- **System Development:** Activities spanned the development cycle: assisted in requirements phase and led the design, detailed design and development phases of the primary system implementation
- **Technology:** Oracle, Cognos Powerplay/Impromptu, Informatica, Trillium

Data Warehouse Developer – Enterprise Data Warehouse Prototype

4/99 to 8/99

Commonwealth of Pennsylvania – Department of Public Welfare

- Developed a data warehouse interface on the state intranet to track cash and Medicaid expenditures

JOHN SHANTZ

- Gathered requirements, designed, and implemented prototype web solutions to lay the foundation for future efforts and to gain user approval
- Oracle, Cognos Powerplay/Impromptu, Informatica

Commonwealth of Kentucky – Empower Kentucky

7/98 to 4/99

Data Warehouse Interface Designer

- Constructed a web-based data warehouse for the Health & Human Services Cabinet to track common clients among state programs
- Led the web design and implementation teams, which were two of the four major development teams
- Oracle, Oracle Discoverer, Oracle Express Objects, Oracle PL/SQL

Texas Instruments – Monroeville, PA

Summer 1996

Computer Engineering Intern

- Conducted various compiler software test suites on a variety of different Digital Signal Processors (DSP)
- Set up a large new test suite for future DSP software testing
- Gained experience with UNIX scripting and navigation as well as testing processes.

AAI Industries – Hunt Valley, MD

Summer 1995

Software Engineering Intern

- Authored a software tool to calibrate the weapons systems of military aircraft
- Gained extensive programming experience in C++ and in working with three-dimensional space vectors

TECHNICAL SKILLS:

- **Relational Databases:** Oracle, MS SQL Server 2005/2012, IBM DB2, MS Access
- **Business Intelligence Software:** Cognos Impromptu, Cognos PowerPlay, Business Objects, Oracle Discoverer, Oracle Express Objects, Hyperion, Informatica PowerMart, IBM/Ascential DataStage, CODE-1, SQL Server Integration Services (SSIS), SQL Server Reporting Services (SSRS), SQL Server Analysis Services (SSAS), IBI WebFocus
- **Data Modeling:** ERWin, ER Studio, MS Visio
- **Environments:** Windows NT/XP/Vista, Windows 7/8, UNIX (Solaris, AIX, Tru64), Linux
- **Programming:** ASP.NET, C#.NET, VB.NET, PL/SQL, HTML, ASP, JSP, CSS, VBScript, C++, Java, JavaScript, Visual Basic, UNIX scripting, PowerBuilder, XML, XML Schema, XML Style sheets, Motorola assembly, SSIS, SSAS, EDI/EDI850
- **Software:** Microsoft Excel, Microsoft PowerPoint, Microsoft Word, Microsoft Project, Visual Studio

EDUCATION:

Carnegie Mellon Tepper School of Business

Pittsburgh, PA

8/99 to 05/01

Master of Business Administration, Finance Concentration

GPA 3.9

The Pennsylvania State University

University Park, PA

8/93 to 12/96

Bachelor of Science in Electrical Engineering

GPA 3.85

HONORS AND ACTIVITIES:

- **High School Valedictorian**, Penn Hills Senior High School, Penn Hills, PA
- **Eta Kappa Nu**, the International Electrical Engineering Honor Fraternity
- Half-marathons, Triathlons, Skiing, Snowboarding, Wakeboarding, Chess, Youth Soccer, Youth Baseball

Steven Shantz

EXPERIENCE

Data Warehouse Consultants, LLC - Pittsburgh, PA

Director of Operations, 07/2005 - Present

Database and Website Consultant - Medical Applications

Children's Hospital of Pittsburgh | of UPMC (09/2011 - Present)

- **Project Summary:** Patient tracking database and web applications
 - Consult with doctors, administrators, and clinicians to define requirements
 - Design and maintain relational databases that track patient information
 - Design and develop websites that maintain and report patient data
 - Design and develop websites that support data collection directly from patients
 - Design and develop research study databases and applications
 - Engineer survey engines that support dynamically configurable data collection
 - Develop custom pre-defined and dynamically defined reporting solutions
 - Design mobile friendly websites that support data collection via smart devices
 - Support the ongoing maintenance and upgrades of numerous web applications
 - Convert legacy MS Access databases and forms to SQL Server and ASP.net
 - Develop processes and programs to support automated data collection via HL7 messaging
- **Technology:** MS SQL Server 2008 / 2012, SQL, T-SQL, ASP.net, VB.net, MS Office, HTML, Microsoft Visual Studios 2008 / 2012

Mobile Application Designer and Developer - Newborn Milk Tracking

Children's Hospital of Pittsburgh | Of UPMC, Pittsburgh, PA (11/2013 - Present)

- **Project Summary:** Windows Mobile application and ASP.net website
 - Design a relational database to support the website and mobile application front end
 - Develop programs to support the automated collection of data via HL7 messages
 - Design and develop a mobile application to validate the match between a patient and milk
 - Develop an ASP.net website that supports the tracking and analysis of data
- **Technology:** MS SQL Server, MS Visual Studios 2012, MS Visual Studios 2005, Windows Mobile 5.0, Intermec CN3 Mobile Computer, Dynamsoft SourceAnywhere, ASP.net, VB.net

Design / Development Lead - Custom Client Reporting Solution

Management Science Associates (03/2013 - 08/2013)

- **Project Summary:** Design and develop custom Excel and PDF reporting solutions
 - Analyze various solutions to determine a cost-effective technical solution
 - Implement and manage strict timeline in order to meet a very tight 5 month timeline
 - Consult with the client to design and validate reporting data and formatting
 - Develop PL/SQL programs that extract and prepare reporting data for client deliverables
 - Develop a relational database that supports the flattening of multi-dimension data
 - Develop custom perl scripts in order to produce specifically formatted excel reports
 - Consult with admins in order to implement a process for converting reports to PDF
 - Convert an expensive printing and mailing process into a cost-effective PDF emailing process
- **Technology:** Oracle 10g, PL/SQL, SQL, Golden, SQL Navigator, SQL Plus, UC4 / Appworx, MS Visual Source Safe, MS Office, Perl, Unix, Linux, Adobe Acrobat

Design / Development Lead - Automated EDI Purchase Order Acknowledgment

Management Science Associates (11/2012 - 10/2013)

- **Project Summary:** Automated EDI Purchase Order acknowledgment and reporting system
 - Design database that retains pertinent EDI 855 and 997 data
 - Develop programs to support the automated processing of EDI 850 purchase orders
 - Write Perl scripts that parse EDI 855 and 997 acknowledgments into relational database
 - Develop PL/SQL programs to support the analysis and processing of data
 - Construct SQL for generating end user reports
 - Support the operational maintenance of the process and programs
- **Technology:** Oracle 10g, PL/SQL, SQL, Golden, SQL Navigator, SQL Plus, UC4 / Appworx, MS Visual Source Safe, MS Office, Perl, Unix, Linux

Design / Development Lead - US Distribution to Stores

Management Science Associates, Pittsburgh, PA (12/2011 - Present)

- **Project Summary:** ETL to prepare Distributor, Store and Chain data for client delivery
 - Develop PL/SQL programs that perform the ETL of data to various databases and warehouses
 - Coordinate with a remote web team in order to integrate the batch and web interfaces
 - Develop and implement automated processes for preparing the data for delivery
 - Develop and manage project issues, communications, and timelines
 - Design database entities in order to support the data flow
 - Support the operational maintenance and training of the processes and products
 - Design and develop custom batch reporting programs to support client deliverables
- **Technology:** Oracle 10g, PL/SQL, SQL, Golden, SQL Navigator, SQL Plus, UC4 / Appworx, MS Visual Source Safe, MS Office, Perl, Unix, Linux, SSIS

Design / Development Lead - Hyperion to SSAS Conversion

Management Science Associates (10/2012 - 10/2013)

- **Project Summary:** Convert hyperion data to SQL Server Analysis Services
 - Convert over a Terabyte of data (5 cubes) from Hyperion exports into Oracle 10g
 - Design a database and process to support the building of SSAS cubes
 - Parse Hyperion OTL files in order to derive dimensions, measures, attributes, and hierarchies
 - Support the maintenance and testing of the conversion
- **Technology:** Oracle 10g, PL/SQL, SQL, Golden, SQL Navigator, SQL Plus, MS Visual Source Safe, MS Office, Perl, Unix, Linux, UC4 / Appworx

Mobile Application Designer and Developer - Pharmacy Drug Tracking

Children's Hospital of Pittsburgh | Of UPMC, Pittsburgh, PA (12/2011 - 12/2012)

- **Project Summary:** Mobile application that tracks and maintains the chain of custody for drugs
 - Design a SQL Server database to house the data and support a web front end
 - Develop a Windows Mobile 5.0 application in order to track the delivery of drugs
 - Develop a VB.net website that supports the tracking and analysis of data
 - Support the maintenance and upgrades of the application and website
- **Technology:** MS SQL Server, MS Visual Studios 2008, MS Visual Studios 2005, Windows Mobile 5.0, Intermec CN3 Mobile Computer, Dynamsoft SourceAnywhere, ASP.net, VB.net

Design / Development Lead - SSAS/ SSIS MDX Feed Prototype

Management Science Associates, Pittsburgh, PA (12/2011 - 03/2012)

- Project Summary: Design and develop an application to generate large feed files from SSAS
 - Develop a windows application that interfaces with SSAS environment
 - Develop MDX queries that generate reporting data
 - Design and develop SSIS packages that support the parallel writing of MDX results
 - Develop and integrate a process to extract ~150 files of ~400K records each via MDX
 - Automate the process to extract this data on a weekly basis in a 3-4 hour window
- Technology: Oracle 10g, PL/SQL, SQL, Golden, SQL Navigator, SQL Plus, UC4 (Appworx), MS Visual Source Safe, MS Office, Perl, Unix, Linux, MS SQL Server, SSIS, SSAS, MDX

Design / Development Lead - Big Data Feeds

Management Science Associates, Pittsburgh, PA (06/2011 - 04/2012)

- Project Summary: Produce large data feed client deliverables
 - Develop PL/SQL that aggregates large datasets for client deliverables
 - Develop methodologies and programs to support delivering large data files to the client
 - Develop SSIS flows that transform data and to migrate data between various platforms
 - Implement partitioning and parallel to optimize feed performance
 - Design methodologies for delivering Gigabytes of flat file data via FTP
- Technology: Oracle 10g, PL/SQL, SQL, Golden, SQL Navigator, SQL Plus, UC4 (Appworx), MS Visual Source Safe, MS Office, Perl, Unix, Linux, MS SQL Server, SSIS

Website and Mobile Application Designer and Developer - Medication Trials

Children's Hospital of Pittsburgh | Of UPMC, Pittsburgh, PA (11/2010 - 10/2011)

- Project Summary: Develop administrator and mobile pages to support patient trials
 - Develop a mobile website to provide an interface for children to report pain levels
 - Develop a mobile website to support the uploading of videos
 - Develop an automated email and text messaging reminder and receipt process
 - Develop a website for administrators to manage and analyze the study data
 - Develop a website for administrators to review and verify video uploads
 - Write SQL, VB.net, and T-SQL scripts and programs to support automated processing
- Technology: MS SQL Server 2008, MS Visual Studios 2008, VB.net, ASP.net, JavaScript, T-SQL, HTML, Dynamsoft SourceAnywhere Hosted

Design / Development Lead - US Distribution to Stores Application Generalization

Management Science Associates, Pittsburgh, PA (11/2010 - 06/2011)

- Project Summary: Design and develop programs and processes to support product generalization
 - Convert client specific processing into a general product that support multiple clients
 - Consolidate and review PL/SQL, SQL Scripts, Perl Scripts, and SQL Plus Scripts
 - Develop programs and processes for the configurable ETL of data into client applications
- Technology: Oracle 10g, PL/SQL, SQL, Golden, SQL Navigator, SQL Plus, UC4 (Appworx), MS Visual Source Safe, MS Word, MS Excel, MS Visio, MS Project, Perl, Unix, Linux

SSIS Designer and Developer - Building Access Security System

Children's Hospital of Pittsburgh | Of UPMC, Pittsburgh, PA (01/2009 - 08/2009)

- Project Summary: Develop an SSIS flow to migrate security data for the opening of the hospital
 - Design a process that migrates data and images between security systems
 - Work with various contract personnel to understand the security system data model
 - Develop validations for the migration, and for identifying areas of concern
 - Consult with administrators for the best courses of action with respect to the project
- Technology: MS Sql Server 2008, SSIS, SSRS, Proprietary Security System Software (P2000)

Development Lead - VMS to Oracle Data Conversion

Management Science Associates, Pittsburgh, PA (10/2008 - 11/2010)

- Project Summary: Convert VMS file based processing into an Oracle relational database
 - Convert and automate the loading of VMS flat files into Oracle
 - Gather requirements for generating delta feeds from Oracle to replicate VMS command procs
 - Develop PL/SQL programs to generate numerous large data feeds (100+ feeds)
 - Develop processes and programs to support the automated validation of data
 - Convert complex VMS command procedures for six clients into Oracle
 - Develop custom batch reporting programs that generate various feeds (HTML / flat files)
- Technology: Oracle 9i and 10g, PL/SQL, SQL, Golden, SQL Navigator, SQL Plus, UC4 (Appworx), MS Visual Source Safe, MS Office, Perl, Shell, Unix, Linux, Open VMS

SSIS Designer and Developer - Database Conversion / File Processing

Data Warehouse Consultants, Pittsburgh, PA (11/2007 - 01/2008)

- Project Summary: Design SSIS flows to migrate data from MS Access to MS Sql Server
 - Model relational databases for upgrades from MS Access to SQL Server
 - Design Data Transformations to support the migration and normalization of data
 - Develop Data Transformations to support automated image loading
 - Develop Data Transformations for automating flat file loads
 - Create a database and SSIS templates to support the detailed logging of SSIS process
- Technology: MS Office, MS SQL Server 2005, MS Visual Studios 2005, T-SQL, VB.net

Website Designer and Developer - Diabetes Educational Supplies Online Order Form

Diabetes Foundation, Pittsburgh, PA (03/2007 - 08/2007)

- Project Summary: Develop a website to support the online ordering of diabetes supplies
 - Construct a database to support the website
 - Develop a website that accepts orders, and provides confirmation and receipts
- Technology: MS SQL Server 2005, MS Visual Studios 2005, ASP.net, VB.net

Development Lead - Client Process Automation Project

Management Science Associates, Pittsburgh, PA (05/2006 - 10/2008)

- Project Summary: Automate and convert manual processes in order to support quality daily delivery
 - Review complex manual processes in order to design more concise and automated processes
 - Develop scripts and programs to support the automated process of data into Oracle
 - Develop PL/SQL programs to transform data for delivery on a daily basis
 - Provide automated reports that provide detailed error logging and validation daily
 - Automate a very complex process to receive daily data files and produce daily deliverables
- Technology: Oracle 9i and 10g, PL/SQL, SQL, Golden, SQL Navigator, SQL Plus, UC4 (Appworx), MS Visual Source Safe, MS Office, Perl, Shell, Unix, Linux, C++

Website Designer and Developer - Online Vehicle Appraisal Application

Driver's World, Virginia Beach, VA (06/2006 - 08/2006)

- Project Summary: Enhance website for supporting the online collection of vehicle images and data
 - Modeled a database for the storage and retrieval of vehicle information and images
 - Develop a web form to accept online vehicle appraisal applications
 - Develop web controls in order to support the viewing and uploading of binary data
 - Support a multi-configuration environment for SQL Server or MS Access
- Technology: MS SQL Server 2005, MS Access, MS Visual Studios 2005, ASP.net, VB.net

Website Designer and Developer - Office of Child Development Program Eligibility System

Office of Child Development - Service Pathways, Pittsburgh, PA (03/2006 - 08/2006)

- Project Summary: Convert and develop a website to support a program eligibility and referral system
 - Convert an unmaintained ASP website to ASP.net
 - Enhance the website to provide a more user-friendly interface
 - Modify the website to meet new program eligibility and referral requirements
 - Develop the website to work with both MS Access and MS SQL Server 2005 backends
- Technology: MS SQL Server 2005, MS Access, MS Visual Studios 2005, ASP, ASP.net, VB.net

Implementation and Testing Lead - Oracle Redesign Project

Management Science Associates, Pittsburgh, PA (07/2005 - 05/2006)

- Project Summary: Manage the SDLC for converting VMS and Oracle 9i data into Oracle 10g
 - Manage the timeline for developing, testing, and implementing programs and processes
 - Coordinate with multiple teams to convert processes from VMS to Oracle
 - Develop scripts and programs to support the automated validation of various data feeds
 - Manage the SDLC for numerous programs and process deployments
 - Test and supervise the bug fixes and enhancements to multiple programs and processes
- Technology: Oracle 9i and 10g, PL/SQL, SQL, Golden, SQL Navigator, SQL Plus, UC4 (Appworx), MS Visual Source Safe, MS Word, MS Excel, MS Visio, MS Project, Perl, Shell, Unix, Linux, C++

Deloitte Consulting, LLP - Pittsburgh, PA

Consultant, 04/2004 - 06/2005

Implementation / Testing Team Technical Lead - Medicaid Eligibility Determination System

Department of Public Welfare (DPW), Harrisburg, PA (04/2004 -06/2005)

- **Project Summary:** Technical liaison on the project implementation team
 - Integration tested program enhancements and bug fixes
 - Coordinated with UAT testers to create and validate testing scenarios, and eligibility results
 - Developed a phased implementation strategy for the statewide rollout of the system
 - Coordinated with trainers, users, and developers to prioritize fixes during the implementation
 - Wrote user guides and referenced that supported the system training and implementation
- **Technology:** MS Office, MS Access, SQL, Adobe Acrobat Writer, Camptasia Studio, SQL, HTML, Mainframe

Mortgage System Consultant- Online loan origination system

Deloitte Consulting, Harrisburg, PA (12/2004 12/2004)

- Project Summary: Consultant during system requirement phase
 - Review system requirements from a loan origination perspective
 - Provide input and feedback to project designers
- Technology: MS Office

United Financial Services, LLC - Scottsdale, AZ

Loan Officer, 09/2003 - 04/2004

Loan Origination and Mortgage Sales - Outside Sales

United Financial Services, Scottsdale, AZ (09/2003 - 04/2004)

- Project Summary: Mortgage loan origination and sales. MS Access Database Designer.
 - Develop a leads database and reporting system for tracking leads and customers
 - Coordinated with the client, title company, appraiser, lender, and processors
 - Attended sales training focused on outside sales and customer service
 - Conducted outside sales through cold calling and mailings
- Technology: MS Word, MS Excel, MS Access

United States Marine Corp - United States and Eastern Pacific

Captain 2nd Battalion 4th Marines 1st MARDIV, 12/1998 - 09/2003

Infantry Officer (Platoon Commander, Executive Officer, Company Commander)

Quantico, VA (1998 - 1999)

San Clemente, CA (1999 - 2003)

31st MEU, Okinawa, Japan (2000 - 2001 / 2002-2003)

- Project Summary: Planned and lead the training of 300+ Infantry Marines
 - Planned weekly, monthly, and annual training in order to meet training standards
 - Planned and managed the logistics for infantry company operations and deployments
 - Managed the accountability and maintenance of weapons and equipment
 - Responsible for the training, mentoring, morale, and welfare of 300+ young men
 - Developed database applications to improve the administration and mission performance
 - Constructed HF, VHF, and UHF communications plans that supported mission communications
 - Technically supported the maintenance and troubleshooting of communications gear
 - Planned and managed numerous deployments for training missions and embarkations
 - Developed MS Access database and reports to support rapid reaction Helicopter operations
- Technology: Communications equipment, weapons systems, MS Access, MS Office, Lotus Suite, MS Access

EDUCATION

The Pennsylvania State University (Main Campus)

Bachelor of Science in Computer Engineering, University Park, PA

Officer Exchange Program

Select Officer Training with the Japanese Navy, Yokosuka, Japan

The Basic School (TBS)

Leadership and Management Training, Quantico, VA

Infantry Officer's Course (IOC)

Leadership and Management Training for Infantry Officers, Quantico, VA

Jungle Warfare Training Course

Leadership Training in an Adverse Environment, Okinawa, Japan

Mountain Leader's Course

Select Officer Training in an Adverse Environment, Bridgeport, CA

TECHNICAL SKILLS

- **Software:** Visual Studios 2003 / 2005 / 2008 / 2010 / 2012, SQL Server 2008 / 2008R2 / 2012, SQL Server Mgmt Studio, SQL Server Business Intelligence Studio, SSIS, SSAS, SSRS, IIS, MS Office, Camptasia Studios, Adobe Acrobat, Golden, PL Edit, Rapid SQL, Sql Navigator, MS Visual Source Safe, Appworx, UC4, Dynamsoft Source Anywhere Hosted, Google Apps
- **Database:** Oracle 9i / 10g, MS Access, SQL Server 2008 / 2008R2 / 2012, SSAS, Hyperion to Oracle Conversion
- **OS:** Windows 98 / NT / 2000 / XP / Vista / 7, Unix, Linux, Windows Mobile 5.0 CE, Limited Open VMS, Chrome
- **Programming:** PL/SQL, SQL, T-SQL, SSIS, SSAS, C++, HTML, Perl, ASP, ASP.net, VB.net, JavaScript, Ajax, Unix Shell, MDX

PERSONAL SKILLS

- **Technology:** Seek new technologies and opportunities to advance technical skill-sets
- **Training:** Possess the written and verbal skills to present complex functionality in a simple manner
- **Presentation:** Experienced in delivering presentations and classroom instruction
- **Self-Motivated:** Produce results that meet or exceed client expectations with very little supervision

HONORS AND ACTIVITIES

- **Ranked** number one of twenty-seven junior officers for three consecutive years of USMC service
- **Japanese Naval Officer Exchange Program:** Selected to represent Penn State NROTC
- **Darren Bell /USAA Awards:** Peer nominated NROTC award for leadership and academic excellence
- **Top %10:** NROTC, Officer Candidate School, Basic School, Infantry Officer Course, Military Career
- **Dad,** Basketball, Weight Lifting, Hiking, Cards, Pool, Website Development, Mobile Apps, Technology



BOB BRICHACEK

EXPERIENCE:

Data Warehouse Consultants – Pittsburgh, PA

Senior Consultant 05/2013 to Current

Web Designer

(11/13 to 12/13)

Data Warehouse Consultants

- **Key Initiatives:** Designed and coordinated the development of new corporate website
- **Content Manager:** Identified taxonomy, themes, and layout for site. Served as editor for content development and developed editorial process for future updates.

Lead Oracle Developer

(10/13 to 12/13)

Management Science Associates

- **Key Initiatives:** Consolidated the process of receiving AC Nielson retailer information utilized by multiple business areas. The redesigned load process replaced five customized processes with a single process resulting in a reduced processing time and increased usability.
- **Process Designer:** Documented existing process flows and developed a consolidated process supporting all business areas.
- **Data Designer:** Developed new Oracle schemas to support the new process and extraction routines to deliver data in the structure required for each business area.
- **Oracle Developer:** Developed new PL/SQL procedures to load, cleanse and deliver retailer information in customized formats.

Process Consultant

(08/13 to 12/13)

Management Science Associates

- **Key Initiatives:** Facilitated the rollout of an automated clearing house supporting the consumer goods and tobacco products. The system utilizes multiple protocols, including EDI, to accept orders from manufacturers and brokers and deliver them to distributors for shipment to retailers.
- **Process Designer:** Implemented process improvements to support additional manufacturers and improve the operational efficiencies of the system. Improved the ability to identify and diagnose operational errors. Improved the overall operation of the system.
- **Operations Support:** Assisted MSA staff in onboarding brokers and distributors.

Lead Oracle Developer

(05/13 to 08/13)

Management Science Associates

- **Key Initiatives:** Process improvements of data warehouse dimension table loading and validation
- **Oracle Developer:** Developed new PL/SQL procedures to streamline the load process and improve the quality of the multi-dimensional model.

Celerity Innovation Center – Pittsburgh, PA

Project Strategy Manager 09/2010 to 01/2013

Project Manager

(09/12 to 10/12)

National Health Insurance Provider

- **Key Initiatives:** Determine if use of Private Health Exchanges would be the most effective way to reduce the number of small businesses move to the Affordable Care Act's Public Exchanges.
- **Project Management:** Developed project scope and plan. Determined staffing models and identified resources. Managed both onsite and remote teams.

Delivery Manager

(09/10 to 03/11)

BOB BRICHACEK

Celerity Innovation Center

- **Key Initiatives:** Develop the methodology and approach to rapidly deliver high quality user centered turnkey application using off-site resources
- **Methodology Development:** Implemented a hybrid approach utilizing waterfall for client deliverables and RAPID for internal development.
- **Resource Planning:** Determined staffing models for growing software development organization.

Project Strategy & Operations

(09/10 to 01/13)

Celerity Innovation Center

- **Key Initiatives:** Manage the rapid growth of the offsite development organization including build out of two floors of downtown office space.
- **Operations Manager:** Managed contractor relations, development floor plans, led voice / data implementation team and coordinated relocation of team to new facility

Celerity IT, LLC – Pittsburgh, PA

Consulting Architect 03/2008 to 09/2010

Technical Consultant

(03/01 to 09/10)

Health Insurance Provider

- **Key Initiatives:** Development of user personas and an approach to personalizing the process of selecting and applying for health insurance.
- **Architecture Development:** Designed a Service Oriented Architecture allowing the personalized website to integrate with existing business applications.

Business Architect

(11/09 to 03/10)

International Laboratory Equipment Manufacturer

- **Key Initiatives:** Merge three newly acquired genomic and proteomic business lines into the existing e-commerce platform. Business required the ability to validate the protein strands prior to ordering.
- **Business Architect:** Worked with client business and technical resources to define the scope of the effort. Identified required use cases and coordinated development with usability and business analytic teams. Facilitated review and approval meetings

Technical Consultant

(03/08 to 11/09)

International Laboratory Equipment Manufacturer

- **Key Initiatives:** Migration of existing e-marketing sites onto corporate-wide e-commerce platform.
- **Project Manager:** Conducted feasibility assessments, risk identification sessions. Developed project scope, resource requirements and project timeline.
- **Technical Architect:** Identified required system interfaces, context models and content management workflows.

FedEx Ground – Pittsburgh, PA

Senior System Analyst 01/2003 to 09/2007

Architecture Review Lead

(09/06 to 09/07)

- **Key Initiatives:** Perform architecture reviews for all major projects utilizing a cross functional team of senior technologists.
- **Review Lead:** Facilitated cross-functional review sessions utilizing Software Engineering Institute methodologies. Authored findings reports and presented to leadership.

Data Architect

(06/06 to 08/07)

- **Key Initiatives:** Development of driver datamart used to track the efficiency and productivity of vehicles, routes and personnel.
- **Requirement Definition:** Interviewed key stakeholders, identifying required reports, data elements and source systems.

BOB BRICHACEK

- **Data Architect:** Designed an Oracle datamart implementing a star based model allowing for rapid retrieval of data and the support of ad-hoc Business Object reporting.
- **ETL Developer:** Developed AbInitio based ETL routines to perform weekly extracts from multi-platform data sources and update the datamart. Routines performed data validation and identified errors in source systems

Web Report Developer

(01/03 to 08/07)

- **Key Initiatives:** Improve performance for a service quality reporting system used by all levels of management to track key service indicators.
- **Report Developer:** Redesigned the approach to reporting to more efficiently access data. Reduced the time to generate reports by over 90%.

PricewaterhouseCoopers, LLC – Pittsburgh, PA

Consulting Manager 09/2000 to 10/2002

Manager

(09/00 to 10/02)

PricewaterhouseCoopers

- **Key Initiatives:** Manage a team of five direct reports. Handle all aspect of personnel management
- **Manager:** Conducted candidate screening and selection, workload management, career coaching and annual performance appraisal.

E-business Strategist

(05/01 to 09/01)

National Building Material Supplier

- **Key Initiatives:** Develop a strategy to capture the web market for contractor based building supply ordering
- **Strategist:** Worked across client organization from C-level to store staff. Validated findings with industry experts and national trends. Recommendations included changes to store operations, sales incentives, marketing approach and technical infrastructure
- **Focus Group Facilitator:** Led multiple general contractor focus groups to identify user needs and validate possible approaches.

Integration Architect

(09/01 to 12/01)

International Consumer Goods Manufacturer

- **Key Initiatives:** To facilitate a corporate wide move to Ariba, develop a process to allow financial data from over 250 ERP systems to be communicated bi-directionally between systems.
- **Integration Architect:** Designed a canonical data model allowing any-to-any transfer of data.

E-commerce Architect

(01/01 to 04/01)

International Fragrance and Flavoring Manufacturer

- **Key Initiatives:** Develop a B2B e-commerce website to allow for the marketing and ordering of flavors and fragrances for use by consumer good manufactures.
- **Process Modeler:** Working with business areas, developed the ordering and fulfillment process flow.
- **Architect:** Designed a WebSphere based architecture to support the business process. Identified system integration requirements.

Project Manager

(12/01 to 10/02)

Small Package Delivery Provider

- **Key Initiatives:** Develop a service quality metric system allowing management to quickly identify business areas requiring addition focus.
- **Project Manager:** Managed on-sire project team. Worked with client technical staff to ensure environment was available for development and production.
- **Report Developer:** Developed Business Objects reports producing standard sets of quality metrics. These reports were electronically distributed across the organization.

IBM Global Services – Pittsburgh, PA

BOB BRICHACEK

I/T Architect

03/1997 to 09/2000

Development Manager

(09/98to 09/00)

International Rubber Manufacture

- **Key Initiatives:** Development and implementation of a B2B platform supporting independent tire dealers. System would support ordering, inventory and invoicing.
- **Development Manager:** Led team of eight developers during year long project.
- **Developer:** Designed and implemented a C based EDI application to process orders and invoices between the website and SAP.

Development Manager

(03/97to 10/97)

Natural Gas Utility

- **Key Initiatives:** In support of deregulation, a inbound call center was needed to allow consumers to select different natural gas providers. A new business area created but required access to regulated business CRM information.
- **Development Manager:** Managed three development teams supporting user interface, call center functionality and legacy integration.

IBM Corporation – Pittsburgh, PA

Client Server Architect 01/1995 to 10/1995

Database Specialist 01/1993 to 12/1994

Development Rep 01/1991 to 12/1992

Systems Engineer 08/1982 to 12/1990

Check Processing Specialist

(09/98to 09/00)

National Bank

- **Key Initiatives:** Client would be a beta test sight for new Check Image processing hardware and software.
- **Check Specialist:** Working with client operations staff and IBM Finance development, coordinated the installation of hardware and software at client site. Participated in functional testing. Served as interface between IBM and client.

Database Specialist

(03/97to 10/97)

IBM Corporation

- **Key Initiatives:** Responsible for the marketing and support of DB2 and associated products in the Pittsburgh region
- **Marketing:** Marketed DB2 and associated products to clients. Efforts included prototype development including the development of large market basket analysis effort for a local retailer.
- **Support:** Led the installation, database design, application development, debugging, and performance tuning efforts at client locations

IBM Corporation – Poughkeepsie, NY

Micro-Code Engineer 06/1980 to 08/1982

- **Engineer:** Developed micro-code to perform automated diagnostic testing of the 3031 processor group.

EDUCATION:

Heinz College,

Carnegie Mellon University

Pittsburgh, PA

(08/07 to12/09)

Master of Software Information Technology,
Software Design and Management

Rensselaer Polytechnic Institute

Troy, NY

(08/76 to 05/80)

BOB BRICHACEK

Bachelor of Science in Electrical Engineering
Computer and Systems Engineering

TECHNICAL SKILLS:

- **Business Intelligence Software:** Business Objects,
- **Databases:** Oracle, IBM DB2, MS SQL Server, MS Access
- **ETL:** AbInitio
- **Data Modeling:** MS Visio
- **Environments:** Windows, UNIX
- **Programming:** PL/SQL, HTML, JSP, CSS, Java, JavaScript, C, XML,
- **Software:** Microsoft Excel, Microsoft PowerPoint, Microsoft Word, Microsoft Project,

PERSONAL SKILLS:

- **Strategy Development:** Business and technology strategy development and validation
- **Process Mapping:** Job shadowing, workshops, process mapping
- **Meeting Facilitation:** Executive project steering committees, business process requirements, detailed systems design
- **Presentation Skills:** Sales demos, prototype demos, training sessions, informational overviews

EXPERIENCE:

Data Warehouse Consultants LLC – Pittsburgh, PA

Senior Consultant

04/2013 to Present

Data Warehouse Technical Lead

Management Science Associates

- Successfully led high-visibility implementation to re-platform critical analytical reports (worth \$5m/year in revenues) from a legacy system into a modern, high-performing Oracle 10g system
- Developed a major upgrade to a complex, analytical data-mart with an Oracle 10g back-end and Microsoft VB.NET 4.0 front-end, which vastly improved performance and overall usability of application
- Automated manual file processing for electronic orders at MSA, using 64-bit technology with a C#.NET front-end and Oracle 10g back-end

Lead Web Developer

Children's Hospital of Pittsburgh

- Deployed enhanced reporting modules, using Microsoft .NET and SQL technologies, which provided employees with enhanced visibility of critical analytics on patients
- Functioned as technical architect and lead developer on a patient analytics web application, improving site security while improving performance and usability

PNC Bank – Pittsburgh, PA

Officer, Senior Software Engineer 07/2012 to 04/2013

Officer, Software Engineer 05/2011 to 07/2012

Business Systems Analyst 12/2009 to 05/2011

Officer/Senior Software Engineer

(7/12 to 4/13)

Risk Management & Compliance Technology

- Functioned as the technical lead on a broad array of critical business applications, ensuring PNC's regulatory compliance and risk management capabilities
- Led onshore and offshore teams through major technical projects while adhering to PNC's PMO standards
- Mentored onshore and offshore resources in proper code design, standards in the promotion process, etc.
- Liaised between business stakeholders and technical resources while communicating complex technical topics clearly
- Provided 24/7 monitoring of application processing with no business impact during technical issues
- Consulted with other team members as the go-to technical expert for guidance on PNC best practices for ETL, SSO, web architecture, database design (OLTP and OLAP), security, disaster recovery, etc.
- Assessed and recommended vendor software packages and upgrades with the business

Officer/Software Engineer

(5/11 to 7/12)

Risk Management & Compliance Technology

- Implemented cutting-edge Oracle reporting solutions using OBIEE front-end and MS SQL server back-end
- Functioned as technical lead using MS SQL Server and Informatica for ETL enhancement projects
- Enhanced our team's communications by utilizing offshore resources for 24/7 availability
- Navigated PNC's matrix organization by fostering relationships to ensure timely project completion

RYAN SYES

Business Systems Analyst

(12/09 to 5/11)

Consumer Default Strategic Operations

- Created analytics that were used by PNC's Board of Directors, on PNC's Annual Report and by elected officials, such as Senator Reed of Rhode Island
- Implemented email automation projects using SQL Server 2008 Integration Services, SSRS and Microsoft Excel
- Tuned poorly-running queries by analyzing and improving execution plans, resulting in superior query performance
- Trained team members on MS SQL and VB.NET logic and syntax

PPG Industries – Pittsburgh, PA

Programmer Analyst I 01/2009 to 12/2009

Programmer Analyst II 07/2007 to 01/2009

Programmer Analyst I

(1/09 to 12/09)

Global Human Resources IT

- Used VB.NET technologies to deploy major web application enhancements to PPG's online Human Capital Management systems, which resulted in a more streamlined and enjoyable user experience
- Provided on-demand reports, pulled from MS SQL and Oracle, to PPG executives such as the CEO and the VP of Human Resources
- Upsized PPG's executive compensation systems from Access to a SQL server back-end, which greatly reduced the annual costs associated with the system and resulted in more accurate and timely data delivery

Programmer Analyst II

(07/07 to 1/09)

Global Human Resources IT

- Functioned as the technical team lead during the rollout of PPG's global Human Capital Management system, determined business requirements, created on-demand reports, and designed the relational SQL database
- Automated electronic data interface files to PPG's vendors and designed the data flow between PPG and the external client's systems
- Utilized MS SQL and Oracle to deliver various global reports and interface files to Highmark, Aetna and MetLife, which resulted in more accurate and timely data delivery

IT Consultant – Pittsburgh, PA

Freelance IT Consultant 01/2007 to 01/2008

- Created a promotional website for company products
- Built client's online store and developed the company's brand

Penn State Information Technology Services – State College, PA

ITS Computer Consultant 08/2004 to 05/2007

- Trained faculty and college students about computer accounts, lab equipment, software and hardware
- Awarded a promotion based on outstanding performance

General Electric – Cincinnati, OH

IT Leadership Development Intern

(Summer 2006)

- Traveled to GE's data center in Alpharetta, Atlanta for server validation, resulting in a successful launch of a six million dollar upgrade to GE's Wind Turbine Oracle servers

RYAN SYES

Giant Eagle – Pittsburgh, PA

Data Warehousing Intern

(Summer 2005)

- Created online reports using MS SQL and ASP, enabling the business to forecast sales at GetGo gas stations

Alcoa – Pittsburgh, PA

Web Development Intern

(Summer 2004)

- Developed Alcoa intranet portal implementations using HTML, Flash and JavaScript

EDUCATION:

The Pennsylvania State University University Park, PA

(1/11 to 12/12)

Master of Business Administration – **GPA 3.63**

The Pennsylvania State University University Park, PA

(8/03 to 5/07)

Bachelor of Science in Information Sciences and Technology – **GPA 3.61**

Business Minor

TECHNICAL SKILLS:

- **Programming:** ASP.NET framework 2.0-4.5 with C# and VB, UNIX shell, Perl, Microsoft SQL Server (2000-12) T-SQL, Oracle PL/SQL, Java, JavaScript, HTML, XML and CSS
- **Software:** Informatica PowerCenter ETL, Microsoft Visual Studio 2005-10, Microsoft BIDS (SSIS packages), SQL Server Management Studio 2005-12, Team Foundation Server, Visual Source Safe, SharePoint, Toad for Oracle, SQL Navigator, Oracle Developer, Adobe Photoshop, Illustrator
- **Operating Systems:** Microsoft Windows 8.1, 7, Vista, XP, Microsoft Server 2003-08 with IIS 7.5, Linux, UNIX, Mac OS X
- **System Architecture and Design:** Project SDLC documentation (business requirements and technical design, test-case design, etc.), ER diagrams, OLTP & OLAP database schemas, data interface design, data-flow diagramming, UML, human-computer interface design

PERSONAL SKILLS:

- Excellent communication and leadership skills with strong team development and mentoring abilities
- Initiative taker and challenge seeker with the ability to work independently or on a team
- Confident and well-rounded with a strong motivation for success

VOLUNTEER:

- Annual Pittsburgh Marathon volunteer
- Allegheny County Household Hazardous Waste annual collection day volunteer
- United Way volunteer with the Wexford-based Woodlands foundation

ACTIVITIES AND INTERESTS:

- Writing music, mountain biking, skiing, camping and hiking, fishing

Data Warehouse Consultants Financial Projections

Staffing Level

Period	1 10/06	2 11/03	3 12/01
Project Owner / Database Architect	1	1	1
Team Lead / Application Developer	1	1	1
Application Developer	1	1	1

Consulting Effort (Hours)

Position	(% FTE)	1	2	3	Total
Project Owner / Database Architect	10%	16	16	16	48
Team Lead / Application Developer	95%	152	152	152	456
Application Developer	95%	152	152	152	456
	0	-	-	-	-
Total		320	320	320	960

Cost

Position	Rate	1	2	3	Total
Project Owner / Database Architect	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]
Team Lead / Application Developer	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]
Application Developer	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]
	\$ -	\$ -	\$ -	\$ -	\$ -
Total		\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]

Data Warehouse Consultants Financial Projections

Staffing Level

	1	2	3	4	5	6	7	8	9	10	11
Period	09/08	10/06	11/03	12/01	12/29	01/26	02/23	03/23	04/20	05/18	06/15
Days	20	20	20	20	20	20	20	20	20	20	20
Database Architect	1	1	1	1	1	1	1	1	1	1	0.75
Lead Designer/Developer	1	1	1	1	1	1	1	1	1	1	0.75
Technical Subject Matter Expert	1	1	1	1	0	0	0	0	0	0	0

Consulting Effort (Hours)

Position	(% FTE)	1	2	3	4	5	6	7	8	9	10	11	Total
Database Architect	10%	16	16	16	16	16	16	16	16	16	16	12	172
Lead Designer/Developer	75%	120	120	120	120	120	120	120	120	120	120	90	1,290
Technical Subject Matter Expert	10%	16	16	16	16	-	-	-	-	-	-	-	64
Total		152	152	152	152	136	136	136	136	136	136	102	1,526

Cost

Position	Rate	1	2	3	4	5	6	7	8	9	10	11	Total
Database Architect	\$ [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Lead Designer/Developer	\$ [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Technical Subject Matter Expert	\$ [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total	\$ [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Total Services	\$ [REDACTED]
Hadoop Infrastructure	\$ [REDACTED]
Total	\$ [REDACTED]